Creating a sparkle in the North

Commended for its significantly improved distilling quality and potential alcohol yield per tonne, candidate variety Sparkler is catching attention. *CPM* investigates why this wheat could prove a gem for northern growers.

By Janine Adamson

With its good tillering ability, significantly improved distilling quality and high septoria resistance, could Sparkler's brilliance create a fizz among the soft Group 4 offering?

According to breeder Elsoms, offering a step up in key traits such as disease resistance, a notably high alcohol yield, plus the wider attributes growers have come to expect from a modern variety, means Sparkler has the potential to become a treasured gem in the North.

Currently a candidate variety set to gain a spot on the Recommended List in November this year, Sparkler ticks all of the boxes required for a robust feed or distilling wheat, says Elsoms' head of wheat breeding, Milika Buurman.

"Not only is Sparkler proving to deliver exceptional yields in the North, but this is accompanied by a significantly improved alcohol yield per tonne, compared with similar varieties in soft Group 4.

"While in the past, popular varieties for distilling have had high gross output but perhaps lacked alcohol yield, Sparkler has broken through this barrier. Therefore we hope growers will perceive it as a high yielding option with a guaranteed end market, whether that's feed or distilling," she explains.

FOSTERING FAMILIARITY

Recognising grower preference for their tried and tested varieties, Milika says Sparkler has been bred from Graham-Skyscraper parentage so it should offer a level of familiarity. "Farmers in the North have extensive experience in growing these varieties, and while Sparkler is created to outperform its parents, we hope that might provide some added assurance regarding its potential."

Disease-wise, the jewel in Sparkler's ▶

Alcohol yield boost
Not only is Sparkler proving to deliver exceptional yields in the North, but it's accompanied by significantly improved alcohol yield per tonne, says Elsoms' Milika Buurman.

Top tillering
According to Don Peters of McCreath Simpson & Prentice, during early trial assessments, Sparkler presented above average tillering.

crown is septoria resistance, which although yet to be formally scored, trials suggest is on a par with the leading RL varieties. "Importantly, we've seen consistently low levels of septoria infection in Sparkler throughout the breeding process. On a personal level, having seen its development from initial cross through to impending launch, it's satisfying that septoria resistance is one of its stand-out traits.

"As for yellow rust resistance, which has come under high levels of scrutiny of late, we have no concerns – the level of resistance in Sparkler doesn't seem to have changed from last season," stresses Milika.

However, she admits that as per many wheat varieties, there's been a trade-off – in this case, brown rust resistance. "Sparkler was put to the test last season where we saw unprecedented levels of the disease in many varieties. So while brown rust resistance isn't its forte, it meets the minimum standard required.

"In addition, chemical control for brown rust remains effective and the disease is less of a concern in general, in particular, in those areas where growers aim for the distilling markets in the northern region."

Although the variety is primarily being pitched for those in the North, it performs well across the wider UK too. Agrii agronomist, Andrew Farley, says having seen Sparkler in Agrii trials at Saltash in Cornwall this year, its septoria resistance is what caught his eye. "In my region (Devon and Somerset), a robust septoria score is a must.

"The untreated plots especially look good and reasonably clean. It'll be interesting to see how Sparkler performs in a year with greater disease pressure such as last season, to put that resistance package to the test."

According to Milika, there should be no issues regarding lodging risk either, with Sparkler holding its own both with and without PGR.

DRILLING DATES

Looking at drilling window, she explains that this has been calculated based on Sparkler's development speed and tillering ability, although will depend on regional risk. "In the North, growers could drill from 15 September; then in the South, we advise from the beginning of October onwards.

"But overall, due to its growth habit and high tillering capacity, Sparkler makes for a good late driller. This is particularly useful for growers who are planting a first wheat after harvesting sugar beet or potatoes, for example.

"Conversely, its early-drilled septoria ratings are still good – it's flexible and can take an earlier drilling slot if necessary," comments Milika.

> ***"Due to its growth habit and high tillering capacity, Sparkler makes for a good late driller."***

Don Peters, seed specialist for McCreath Simpson & Prentice, the agricultural merchanting division of Simpsons Malt, says Sparkler is currently being evaluated as part of the company's dedicated distilling wheat trial in Angus. Drilled on 5 October, he says the variety was quick out of the blocks and established well. "It was also noticeably fast to get going in the spring, launching into vigorous growth."

One aspect Don noted in particular, was that during early assessments, Sparkler presented above average tillering – one or two more tillers than all of the other varieties in the trial. "We experienced significant fluctuations in temperature in Scotland this spring, meaning there will have been an impact on the physiology of the wheat plants.

"As such, there may have been lost tillers. However, with Sparkler having a higher baseline to begin with, this offers some insurance in those types of scenarios," he points out.

All varieties being trialled by McCreath Simpson & Prentice are evaluated both untreated and with the addition of the standard RL fungicide protocol. Don says while septoria pressure this year in Scotland has been low, Sparkler has remained clean throughout plus indicated a low susceptibility to mildew.

"There has been some yellow rust in the untreated Sparkler plot, but this was controlled well by appropriate fungicides. All-in-all, it appears to offer a good, robust disease resistance profile."

In terms of the variety's position in the market, Don agrees with Elsoms. "Spirit extract potential has plateaued for the past 20 years or so, so Sparkler's promised alcohol yield is what makes the variety an exciting prospect.

"Distilling is a significant proportion of our business, so this is an important factor for growers in the North. Now it's a case of waiting for the numbers post-harvest to truly confirm that."

And if this does come to fruition, there's the potential to offset sustainability concerns, highlights Elsoms' Toby Reich. "Particularly in the distilling market – Sparkler is efficient due to its high alcohol output, achieving more from less," he says.

To conclude, Toby has an assured message: "We're confident Sparkler will achieve its place on the RL. We aim for it to re-ignite the soft Group 4 market segment, just as Bamford has reinvigorated Group 3." ●

Assured confidence
Toby Reich is confident Sparkler will achieve its place on the Recommended List.

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Balancing up the yield lag

Ascertaining the true value of varietal resistance to BYDV

When a new trait is introduced into a variety, it invariably comes with an initial yield penalty. For example, rhizomania resistance in sugar beet and TuYV resistance in oilseed rape.

Barley yellow dwarf virus (BYDV) resistance in cereals is no different, with current varieties possessing the trait behind their Group peers in AHDB Recommended List trial yields. But, until yields can be equalised, outside of an RL trial, what's the value of the trait in a real-world situation?

A look back at orange wheat blossom midge resistance is instructive, suggests Andrew Creasy, RAGT arable technical manager. He says Welford was first with that trait in 2004, but just three years later, Oakley was recommended with the trait as the highest yielding variety on the RL.

While overcoming the yield lag with BYDV resistance might not be quite that quick, RAGT has already identified a candidate variety with the trait plus a yield of 102% of controls. "Our wheat breeders have every confidence that we've gone through the yield pain with initial material, and it'll improve quickly," states Andrew.

Where BYDV is present, the yield gap can quickly disappear – across 11 RAGT trials, seven inoculated with a further four having a natural infection of BYDV, the BYDV-resistant variety RGT Goldfinch outperformed its RL yield performance by 7%, while yield was reduced by an average of 3% in the susceptible varieties.

In these trials, three new candidate varieties with BYDV resistance, all hard feed wheats, yielded on a par with the top-performing varieties on the RL.

Compensating a little on yield can be worthwhile, believes Matford Arable agronomist Neil Potts, who advises growers in the BYDV hot spot across Devon and Cornwall. "Researchers estimate it can rob up to 50% of yield, but I've seen crops in this part of the world where yield loss is 100%. It kills the crop if infected badly."

He believes the BYDV trait works. "In situations where growers can struggle to spray during the autumn and winter, for example on soils that can be difficult to travel, then paying a little bit of a price on yield is well worth it to avoid BYDV."

"You could consider a fungicide spend on Goldfinch of £60-80/ha rather than up to £120-140/ha."

On farm, it's margin that counts more than overall yield, says Northamptonshire grower Andrew Pitts. He grew a 40ha seed crop of RGT Goldfinch last season which was direct drilled at the end of September after peas. This yielded 10.1t/ha and crucially achieved full milling wheat specification

Moving on up
RAGT's Andrew Creasey says the breeder has every confidence that it's gone through the yield pain with initial BYDV-resistant material, and it'll improve quickly.

of 13.1 to 13.7% protein, 76kg/hl specific weight and a Hagberg of 350.

That yield surpassed expectations he adds, but achieving a full milling wheat specification is ultimately what helps to drive acceptable gross margins. "If we'd sold that in the autumn, it would have been worth around £240/t and a gross output approaching £2400/ha. That's an excellent output," comments Andrew Pitts.

In addition, RGT Goldfinch's wider agronomic characteristics could help to make it a cheaper variety to grow. "It's an astonishingly clean variety. We had one 36m tramline where we didn't apply any fungicide to see what it looked like and the combine data showed no yield differences compared with where it had a full fungicide programme.

"You wouldn't do that commercially, but you could consider a fungicide spend on Goldfinch of £60-80/ha rather than up to £120-140/ha," highlights Andrew Pitts.

Adding that saving to a potential payment of £45/ha for growers signed up to an SFI contract, including the no insecticide option, it totals to around a £90/ha saving once the additional cost for the BYDV trait is taken into account.

"That's 0.5t/ha of yield at no risk, so you have to look at it in the round. It makes for a very low risk variety commercially, which has a place."

It also fits systems where the aim is to grow insecticide-free crops as much as possible. In Andrew Pitts' case, the only crops grown that regularly require an insecticide are winter barley and peas. "We want an insecticide-free farm; the environment is very important to us so if we can choose to grow something that doesn't require insecticide and the gross margin adds up, we will."

Minimising the use of insecticides has led to higher counts of beneficial insects on the farm, he points out. "By not using insecticides, we're increasing natural predators and therefore reducing insect pressure further."

But with climate change likely to bring warmer and wetter winters, reducing the number of frosts to kill over-wintering aphids, BYDV pressure is expected to increase, he predicts. "It's likely to become more prevalent so using BYDV-resistant varieties as part of an integrated pest management approach will likely become mainstream, in the same way that growing orange wheat blossom midge-resistant varieties has," concludes Andrew Pitts.